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PATENT COOPERATION TREATY



# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference W1.1993PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/DE2003/002972	International filing date (day/month/year) 09 September 2003 (09.09.2003)	Priority date (day/month/year) 19 September 2002 (19.09.2002)
International Patent Classification (IPC) or national classification and IPC B41F 13/004		
Applicant KOENIG & BAUER AKTIENGESELLSCHAFT		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>9</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>14</u> sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input checked="" type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand 04 March 2004 (04.03.2004)	Date of completion of this report 31 January 2005 (31.01.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages \_\_\_\_\_ 3-24 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ 1, 2, 2a \_\_\_\_\_ received by this Authority on 22 December 2004 (22.12.2004)
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_ 1-3 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ 4-51 \_\_\_\_\_ received by this Authority on 22 December 2004 (22.12.2004)
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages \_\_\_\_\_ 1/4-4/4 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has:
  - ☒ restricted the claims.
  - ☒ paid additional fees.
  - ☐ paid additional fees under protest.
  - ☐ neither restricted nor paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
  - ☐ complied with.
  - ☐ not complied with for the following reasons:

4. Consequently, this report has been established in respect of the following parts of the international application:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-32,39-51

## Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV

The Examining Authority has determined that the international application contains several inventions or groups of inventions that are not so linked as to form a single, general inventive concept (PCT Rule 13.1), namely:

- I: Claims 1, 4 and 43: (offset via second line)
- II: Claims 15 and 45 (ancillary drive control system for several assemblies)
- III: Claims 30 and 31 (alignment before startup)
- IV: Claim 33 (guide shaft position predetermined by a printing group).

WO-A-97/11848 (D1), which stems from the same patent family as US-A-59470234, a document cited in the search report, discloses (cf. page 6, lines 10-28; page 7, lines 8-20; page 10, line 18 to page 11, line 33; page 12, line 19 to page 14, line 4; figures 2 and 3) a drive device for a printing machine with several assemblies (print positions and folding device) that are driven mechanically independently of each other by drive motors via drive units associated therewith (cf. figure 3), and with at least one first signal line (44) that connects the drive units of these assemblies and supplies signals for a guide shaft position of a virtual guide shaft, signals being suppliable to the drive units via a second signal line (42) that differs from the first signal line (44). An offset can be supplied to the drive units via the first signal line (44).

A comparison of the present groups of claims with those of the cited document shows that the following features

## Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV

make a contribution to the prior art and therefore can be regarded as special technical features pursuant to PCT Rule 13.2:

## I. Claims 1, 4 and 43:

Claims 1, 4 and 43 differ from D1 in that an offset that determines the displacement of a setpoint angular position in relation to the guide shaft position can be supplied to the drive units via the second signal line.

Furthermore, claim 4 differs from D1 in that between the primary drive control system and the drive unit or units of a group of assemblies, at least one ancillary drive control system is provided to which signals for the current guide shaft position and/or guide shaft movement are transmitted via the signal line and which is designed for a specific elaboration of control signals for at least one single drive unit associated with this ancillary drive control system, using the current guide shaft position and/or guide shaft movement. This additional distinguishing feature, which links claim 4 to claims 15 and 45, cannot, however, be regarded as a general inventive concept in view of the document US-A-2002/0124743 (D2) (cf. paragraphs 33-35 and 53), which means that there is no unity of invention between claim 4 and claims 15 and 45.

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV

II. Claims 15 and 45:

One ancillary drive control system is associated with the drive units of a group of assemblies and is embodied between the primary drive control system and the drive units of the group of assemblies.

III. Claims 30 and 31:

Before the startup of the processing machine, the guide shaft position is aligned with the position it has most recently assumed and stored, or on the basis of the current angular position of one of the assemblies.

IV. Claim 33:

The guide shaft position is predetermined by the angular position of a printing group. Therefore, with respect to the special technical features and the problems to be solved thereby, there is no unity of invention among the four above-mentioned groups within the meaning of PCT Rules 13.1 and 13.2.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-32, 39-51	YES
	Claims		NO
Inventive step (IS)	Claims	1-32, 39-51	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-32, 39-51	YES
	Claims		NO

### 2. Citations and explanations

The applicant has requested an examination of the original inventions II and III.

The amendment to the claims submitted with the letter of 16 December 2004 enables invention I additionally to be examined.

Invention IV is not pursued in this report.

### Invention I:

As was already mentioned in Box IV, the subject matter of claims 1, 4, and 43 differs from the disclosure in D1 in that an offset that determines the displacement of a desired angular position with respect to the guide shaft position can be supplied to each of the drive units via the second signal line, which differs from the first signal line.

Therefore, the subject matter of claims 1, 4, and 43 is novel.

According to the application (cf. page 3, second paragraph), the purposes of this separate signal

line architecture are security during transmission and speed of the data transmission.

D2 discloses a drive device for a processing machine with several assemblies that are driven independently of each other by drive motors via drive units (2-5) associated therewith, and with at least one signal line (network 11) that connects the drive units or an ancillary drive control system of these assemblies and that supplies clock signals (D) generated by a primary control system (10) ("clocking") (cf. paragraphs 33 and 53), between the primary drive control system (10) and the drive unit (2-5) at least one ancillary drive control system (6-9) being provided to which the clock signals are transmitted via the signal line and which is designed for a specific elaboration of control signals for at least one single drive unit associated with this ancillary drive control system, by means of the predetermined clocking.

Figure 1 of D2 shows between drive control systems and the primary drive control system an arrow, D, for the clock signals and a separate arrow, C, for the offset signals, *inter alia*, but the only physical connection it mentions is network (11). Consequently, it can be assumed that the various signals are supplied via the same network.

Neither D1, which transmits the offset and the guide shaft position signals on the same line, nor D2, nor a combination of their teachings renders obvious the subject matter of claims 1, 4 and 43 for the purpose indicated.

Therefore, claims 1, 4 and 43 also involve an inventive step and, along with the further embodiments of claims 2, 3, 5-14 and 16, 17, 18, 20-29, 44, and 46-50, which are dependent thereon, meet the requirements of PCT Article 33(1) to (4).

Invention II:

US-A-2002/0124743 (D2) is regarded as the prior art closest to the subject matter of claims 15 and 45.

In D2, a drive control unit is associated with each motor and each of these drive control units is connected to a primary drive control system.

Therefore, the subject matter of claims 15 and 45 differs from D2 in that a motor is associated with each unit in a group of assemblies, and a drive with drive adjustment is associated with each motor, and together they form one drive unit per assembly.

Between the primary drive control system and the group of assemblies an ancillary drive control system is provided that is designed for a specific elaboration of control signals for the drive units associated with this group.

Therefore, the subject matter of claims 15 and 45 is novel.

Because of the interposition of this ancillary control system, the transmission speed of the signal line that runs from the primary drive control system and supplies the guide shaft position is not burdened by additional control signals, and the

adjustment speed of the peripheral unit responsible for the direct control of the motor is not slowed by the processing of control signals. Data transmission and adjustment precision can thereby be increased.

None of the searched documents, taken either alone or in combination, render obvious the subject matter of claims 15 and 45 for the purpose indicated.

Therefore, claims 15 and 45 also involve an inventive step and, along with the further embodiments in claims 16-21 and 46-50, which are dependent thereon, meet the requirements of PCT Article 33(1) to (4).

It should be noted that in claim 15, the word "and" is missing from the dependent clause "... , that between the drive units..." before the term "the primary control system".

Claim 15 was interpreted accordingly in the statements above.

### Invention III:

The present claims 30 and 31 differ from the prior art closest thereto (cf. D1, for example) in that

before the startup of the processing machine, the guide shaft position is aligned on the basis of the current angular position of one of the assemblies (claim 30) and

in that, before the startup of the processing machine, the guide shaft position is aligned with

its most recently adopted and stored position (claim 31).

Therefore, the subject matter of claims 30 and 31 is novel.

In technical terms, these distinguishing features correspond in that, in both cases, synchronization during a restart can be carried out within a small angular spread and therefore the restart can be completed faster.

In EP-A-1151865, which was cited in the application, a restart is also carried out on the basis of the current angular position of one of the assemblies, but during operation, this assembly also serves as the guide shaft for the other drives, whereas in claim 30, after the startup phase has been completed, the synthetically generated guide shaft signal is adopted, which is independent of fluctuations in forces and is therefore more precise.

None of the searched documents, whether taken alone or in combination, renders obvious the subject matter of claims 30 and 31 for the indicated purpose.

Therefore, claims 30 and 31 also involve an inventive step and, along with the further embodiments in claims 32, 39-42 and 46-51, which are dependent thereon, meet the requirements of PCT Article 33(1) to (4).

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Note:

Documents WO-A-98/16384 and EP-A-0934826, which were cited by the applicant during the proceedings, were considered by the Examining Authority to be less relevant than the documents cited above.

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